

Silicon NPN Power Transistors

2SC3461

DESCRIPTION

- With TO-3PN package
- High breakdown voltage and high reliability.
- Fast switching speed
- Wide ASO(Safe Operating Area)

APPLICATIONS

- 800V/8A switching regulator applications

PINNING

PIN	DESCRIPTION
1	Base
2	Collector;connected to mounting base
3	Emitter

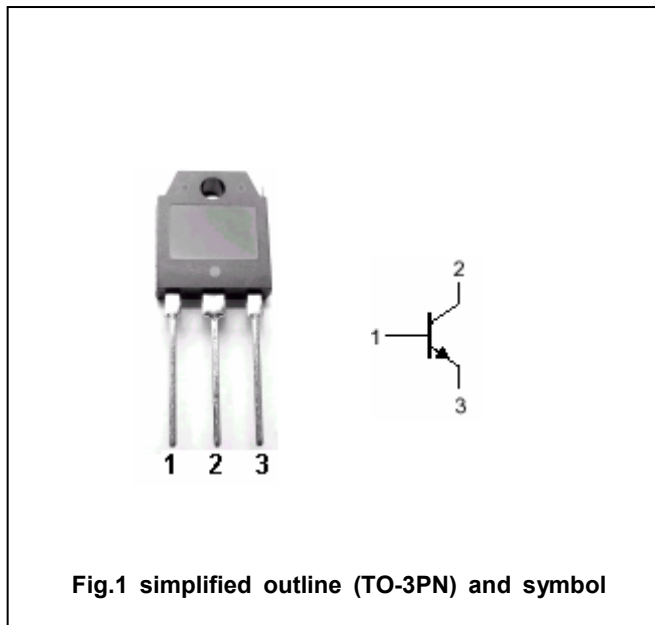


Fig.1 simplified outline (TO-3PN) and symbol

Absolute maximum ratings(Ta=□)

SYMBOL	PARAMETER	CONDITIONS	VALUE	UNIT
V _{CBO}	Collector-base voltage	Open emitter	1100	V
V _{CEO}	Collector-emitter voltage	Open base	800	V
V _{EBO}	Emitter-base voltage	Open collector	7	V
I _C	Collector current		8	A
I _{CM}	Collector current-peak		25	A
I _B	Base current		4	A
P _C	Collector power dissipation	T _C =25□	140	W
T _j	Junction temperature		150	□
T _{stg}	Storage temperature		-55~150	□

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CHARACTERISTICS

Tj=25°C unless otherwise specified

SYMBOL	PARAMETER	CONDITIONS	MIN	TYP.	MAX	UNIT
$V_{(BR)CEO}$	Collector-emitter breakdown voltage	$I_C=5mA ; R_{BE}=\infty$	800			V
$V_{(BR)CBO}$	Collector-base breakdown voltage	$I_C=1mA ; I_E=0$	1100			V
$V_{(BR)EBO}$	Emitter-base breakdown voltage	$I_E=1mA ; I_C=0$	7			V
V_{CEsat}	Collector-emitter saturation voltage	$I_C=4A ; I_B=0.8A$			2.0	V
V_{BEsat}	Base-emitter saturation voltage	$I_C=4A ; I_B=0.8A$			1.5	V
I_{CBO}	Collector cut-off current	$V_{CB}=800V ; I_E=0$			10	μA
I_{EBO}	Emitter cut-off current	$V_{EB}=5V ; I_C=0$			10	μA
h_{FE-1}	DC current gain	$I_C=0.6A ; V_{CE}=5V$	10		40	
h_{FE-2}	DC current gain	$I_C=3A ; V_{CE}=5V$	8			
C_{ob}	Output capacitance	$I_E=0 ; V_{CB}=10V ; f=1MHz$		155		pF
f_T	Transition frequency	$I_C=0.6A ; V_{CE}=10V$		15		MHz

Switching times

t_{on}	Turn-on time	$I_C=6A ; R_L=66.7\Omega$ $I_{B1}=1.2A ; I_{B2}=-2.4A$ $V_{CC}=400V$			0.5	μs
t_{stg}	Storage time				3.0	μs
t_f	Fall time				0.3	μs

◆ h_{FE-1} Classifications

K	L	M
10-20	15-30	20-40

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PACKAGE OUTLINE

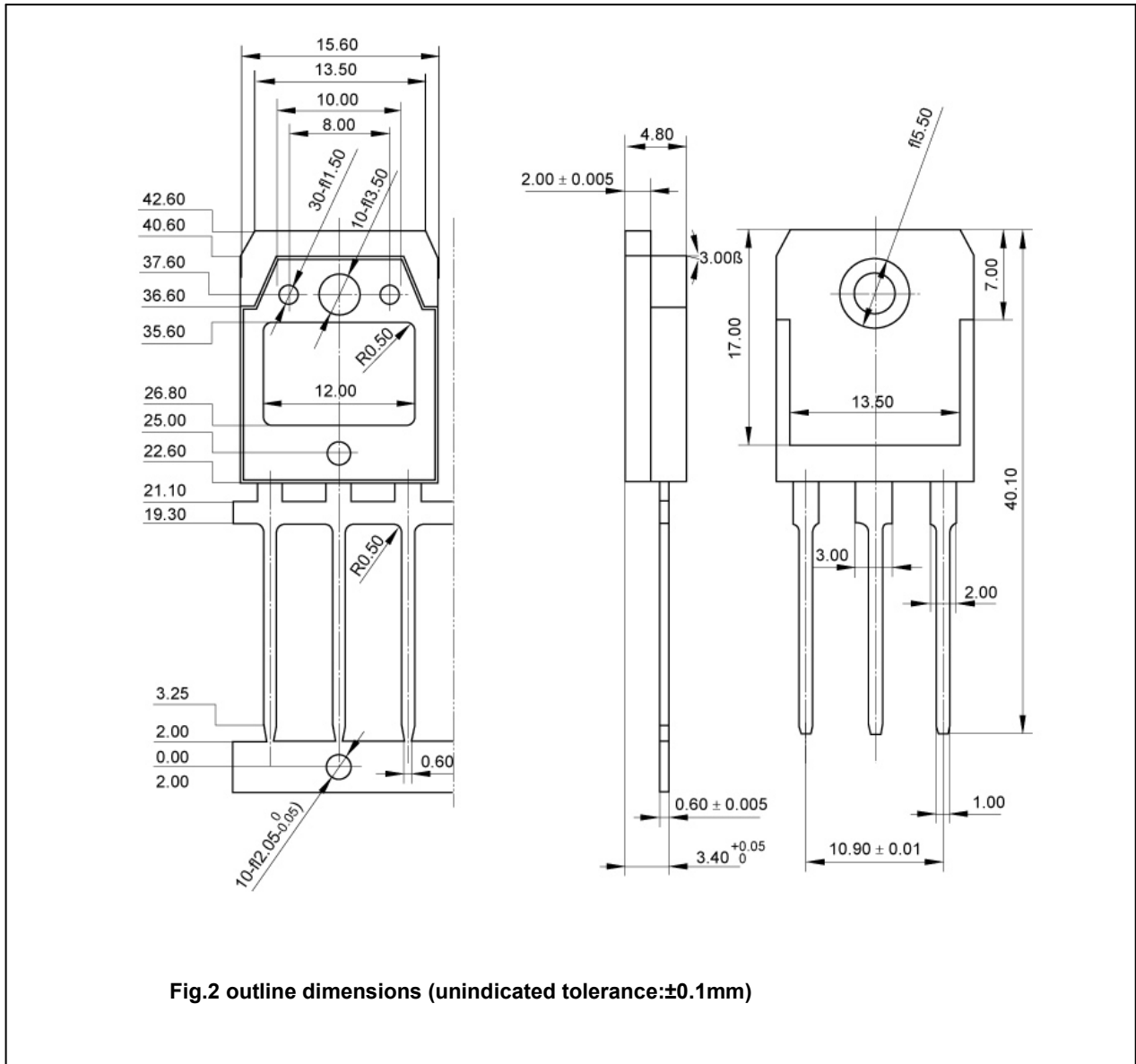


Fig.2 outline dimensions (unindicated tolerance:±0.1mm)

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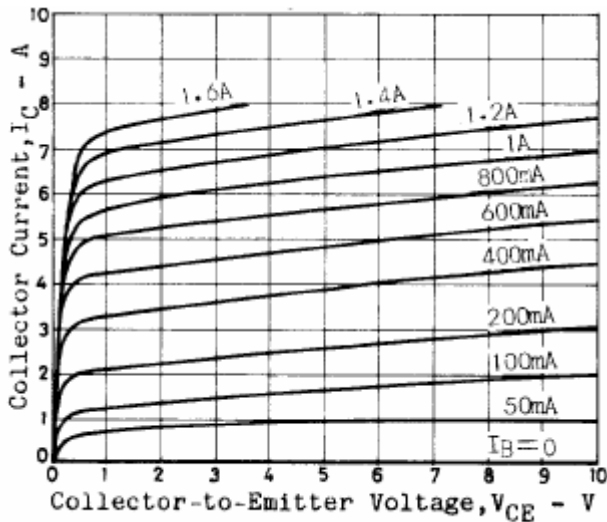


Fig.3 Static Characteristic

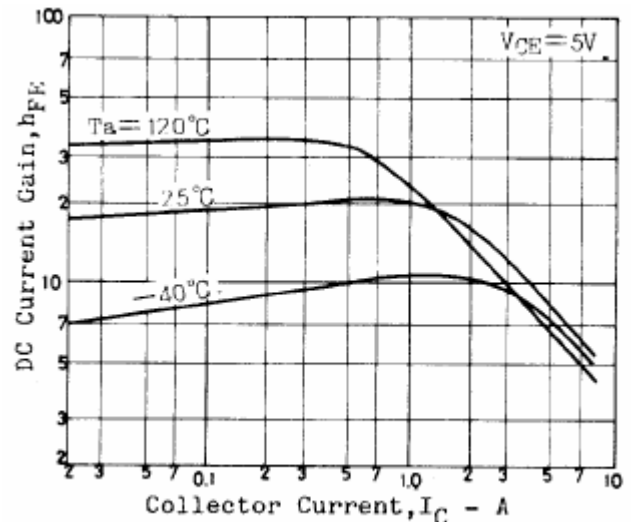


Fig.4 DC current Gain

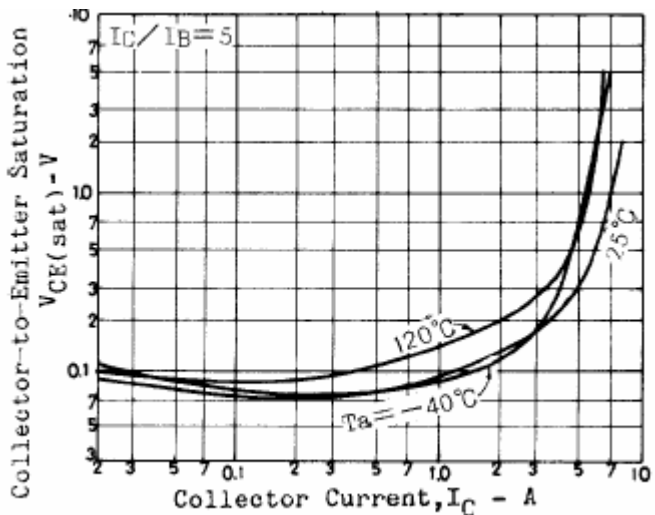


Fig.5 Collector-Emmitter Saturation Voltage

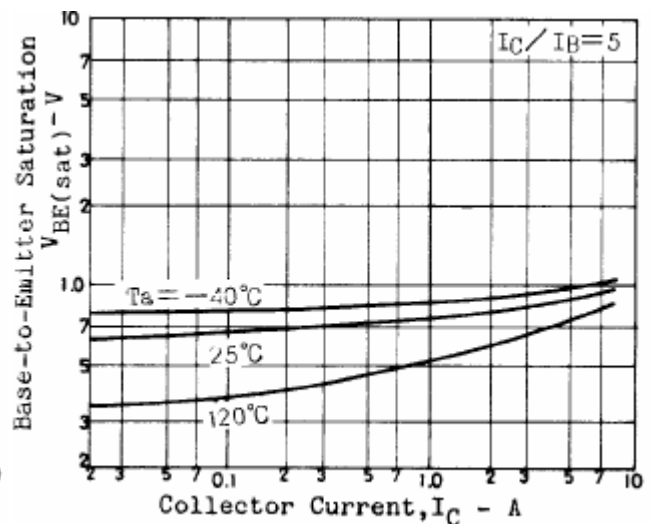


Fig.6 Base-Emmitter Saturation Voltage

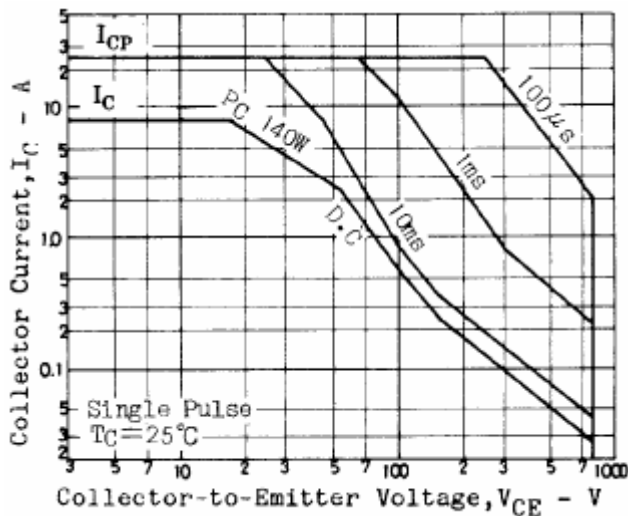


Fig.7 Safe Operating Area